



C Language
C Language
[CORE COURSE]

Semester: I	Credits: 3	Subject Code: BC12003	Lectures: 48
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Course Outcomes:

At the end of this course the learner will be able to,

- Relate the basics of computer programming languages.
- Develop C programs on windows platform.
- Analyze the problem and find the logical solution by using C language.
- Remember various system defined function for string handling and I/O.
- Create programs, applications in C language and use them in solving various problems.

Unit 1: Introduction to C language	08
<ul style="list-style-type: none">• History• Basic structure of C Programming• Language fundamentals<ul style="list-style-type: none">○ Character set, tokens○ Keywords and identifiers○ Variables and data types• Operators<ul style="list-style-type: none">○ Types of operators○ Precedence and associativity○ Expression• Managing I/O operations<ul style="list-style-type: none">○ Console based I/O and related built-in I/O functions○ printf(), scanf()○ getch(), getchar()○ Formatted input and formatted output	

Unit 2: Control structure	08
<ul style="list-style-type: none">• Decision Making and Conditional statements<ul style="list-style-type: none">○ Introduction○ Decision making structure○ If statement○ If-else statement○ Nested if-else statement○ Conditional operator○ Switch statement	

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<ul style="list-style-type: none"> • Loop control structures <ul style="list-style-type: none"> ○ while loop ○ Do-while loop ○ For loop ○ Nested for loop ○ Jump statements ○ break ○ continue ○ goto ○ exit 	
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Unit 3: Arrays and Strings	12
<ul style="list-style-type: none"> • Introduction to Array <ul style="list-style-type: none"> ○ Definition ○ Declaration ○ Initialization • Accessing and displaying array elements • Finding smallest and largest number from array • Reversing array • Introductions to Strings <ul style="list-style-type: none"> ○ Definition ○ Declaration ○ Initialization ○ Standard library functions ○ Implementations without standard library functions 	

Unit 4: Functions and Pointer	10
<ul style="list-style-type: none"> • Introduction <ul style="list-style-type: none"> ○ Purpose of function ○ Function definition ○ Function declaration ○ Function call ○ Types of functions ○ Call by value and call by reference ○ Storage classes • Introduction to pointer <ul style="list-style-type: none"> ○ Definition ○ Declaration ○ Initialization ○ Indirection operator and address of operator ○ Pointer arithmetic ○ Dynamic memory allocation • Functions and pointers 	

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Unit 5: Structure and Union	10
<ul style="list-style-type: none">• 5.1 Introduction to structure<ul style="list-style-type: none">○ Definition○ Declaration○ Accessing members○ structure operations○ nested structure• Union<ul style="list-style-type: none">○ Definition○ Declaration○ Accessing members	

#12 hours for Library work, assignments practical or field work

Recommended Text Books:


- Byron S Gottfried, *Programming with C*, McGraw Hill, 2018
- Kiran Gurbani, Vinaya Keshkar, *C Programming*, Himalaya Publication House, 2015
- Brian W. Kernighan, *The C Programming*, Pearson, 2015
- S.K. Srivastava, *C in Depth*, BPB Publication

Reference Books:

- Yashwant Kanetkar, *Let us C*, Abrams, M.H. A Glossary of Literary Terms. Prism: Bangalore; 2004., BPB publication;
- Balagurusamy, *Ansi C*, MC Graw Hill Education, 2017
- Yashwant Kanetkar, *Understanding Pointers in C*, BPB publication 2002.
- Herbert Schildt, *The Complete Reference C*, Tata McGraw-Hill publication 3rd edition 2008.


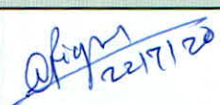


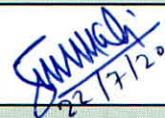

Websites:

<https://www.tutorialspoint.com/>
www.w3schools.com
<https://www.studytonight.com/c/>

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St. Mira's College for Girls, Pune
(FYBBA(CA) 2020-2023)

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Faculty*	Asst. Prof Monika Rajguru		
Faculty*	Asst. Prof. Divya Chitre		
Subject Expert (Outside SPPU)	Dr. Sagar Jambhorkar		
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VC Nominee	Asst. Prof Anjum Patel		
Industry Expert	Mr. Sumit Singh Pal		
One Alumni***	Ms. Vidhi Thakkar		

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